

## ABSTRACT OF THE DISCLOSURE

In a photoelectric converting device, a photoelectric current (electric signal) generated by light entering a photodiode PD causes the gate voltage of MOS transistors T1 and T2 to rise, and thus a current corresponding to this gate voltage flows through the MOS transistor T2 into a capacitor C, shifting the voltage at the node "a" between the MOS transistor T2 and the capacitor C. Here, when the voltage  $\phi VPS$  applied to the source of the MOS transistor T1 is adjusted in such a way that the MOS transistor T1 operates in a subthreshold region below its threshold level, the voltage at the node "a" varies on a natural-logarithm basis with respect to the photoelectric current. By contrast, when the voltage  $\phi VPS$  applied to the source of the MOS transistor T1 is kept approximately equal to a direct-current voltage  $V_{PD}$ , the voltage at the node "a" varies on a linear basis with respect to the photoelectric current.